Therefore, when θ is not small, $\frac{\partial\psi}{\partial\mu_{r=a}}$ vanishes to the first order at least, so that there is no first order effect at a point on the surface of the sphere which is at a finite angular distance from the oscillator.

"On the Structure of Gold Leaf and the Absorption Spectrum of Gold." By J. W. MALLET, F.R.S., Professor of Chemistry in the University of Virginia. Received May 22,—Read June 11, 1903.

(Abstract.)

Attention is drawn to numerous irregularly distributed black lines which are to be seen in gold leaf examined with the microscope by transmitted light. These lines are shown to depend on the presence of minute wires or threads of the metal, unconnected with its crystalline structure, but produced in the process of gold beating by the stretching, along lines of weakness, of the animal membrane between sheets of which the gold is placed, thus developing minute trough-like wrinkles into which the soft metal is forced.

The results are given of an examination of the absorption spectrum —in the visible, ultra-violet and infra-red regions—of metallic gold in a finely divided condition, as found in gold-coloured glass, and as reduced from dilute aqueous solutions of its salts.